

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A steering system for a vehicle, comprising:
a steering shaft; and
a fixed type constant velocity joint comprising: including
an outer joint member having an inner spherical surface and having axially extending ball grooves at circumferentially equispaced positions on the inner spherical surface;
an inner joint member having an outer spherical surface and having axially extending ball grooves at circumferentially equispaced positions on the outer spherical surface, the inner joint member being connected to the steering shaft;
balls disposed in wedge-shaped ball tracks defined by the ball grooves of the outer and inner joint members;
a cage interposed between the inner spherical surface of the outer joint member and the outer spherical surface of the inner joint member to hold the balls,
a pressing section which axially applies an elastic pressing force disposed on an inner joint member side, and the cage including a receiving section which receives a pressing force from said pressing section,
wherein a torsional angle of the constant velocity joint in a torque-torsional angle diagram is approximately 0 at the time ~~of an~~ input torque of 0 Nm is applied to the steering shaft and to the inner joint member, and
wherein the constant velocity joint is configured ~~to be connected to a shaft of a vehicle and configured~~ such that a rotational direction phase having a bending direction of the shaft so as to be aligned with one ball groove of the ball grooves coincides with a steering wheel rotational phase of the vehicle such that the vehicle is in a straight travel state.
2. (Currently Amended) A steering system for a vehicle, comprising:
a steering shaft; and
a fixed type constant velocity joint comprising: including
an outer joint member having an inner spherical surface and having axially extending ball grooves at circumferentially equispaced positions on the inner spherical surface;

an inner joint member having an outer spherical surface and having axially extending ball grooves at circumferentially equispaced positions on the outer spherical surface, the inner joint member being connected to the steering shaft;

balls disposed in wedge-shaped ball tracks defined by the ball grooves of the outer and inner joint members;

a cage interposed between the inner spherical surface of the outer joint member and the outer spherical surface of the inner joint member to hold the balls; and

a pressing section which axially applies an elastic pressing force disposed on an inner joint member side, and the cage including a receiving section which receives a pressing force from said pressing section,

wherein a torsional rigidity of the constant velocity joint in the vicinity of input torque of 0 Nm applied to the steering shaft and to the inner joint member in a torque-torsional angle diagram is in a range of 1.5 Nm/deg to 6 Nm/deg, and

wherein the constant velocity joint is configured ~~to be connected to a shaft of a vehicle and configured~~ such that a rotational direction phase having a bending direction of the shaft so as to be aligned with one ball groove of the ball grooves coincides with a steering wheel rotational phase of the vehicle such that the vehicle is in a straight travel state.

3. (Cancelled)

4. (Currently Amended) A steering system for a vehicle ~~fixed type constant velocity joint~~ as set forth in Claim 1, wherein the ball tracks include an expanded side, and the elastic pressing force acts such that the inner joint member is pushed out to the expanded side of the ball tracks through the receiving section installed in the cage.

5-6. (Cancelled)

7. (Currently Amended) A steering system for a vehicle ~~fixed type constant velocity joint~~ as set forth in Claim 2, wherein the ball tracks include an expanded side, and the elastic pressing force acts such that the inner joint member is pushed out to the expanded side of the ball tracks through the receiving section installed in the cage.

8-12. (Cancelled)